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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210				
			EXAMINER	
			THAI, TUAN V	
			ART UNIT	PAPER NUMBER
			2186	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,330

Applicant(s)

COATNEY ET AL.

Examiner

Tuan V. Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 37-57 is/are pending in the application.
- 4a) Of the above claim(s) 17-36 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-16 and 37-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Part III DETAILED ACTION

Response to Amendment

1. This office action is in response to Applicant's communication filed August 05, 2005. This amendment has been entered and carefully considered. Claims 1-6, 8-16 and 37-57 are presented for examination. Claim 7 is allowed. Claims 17-36 have been cancelled.

2. The rejection of claim 57 under 35 USC 101 is maintained. Applicant's counsel is directed to pages 52-55 of the new Interim Guidelines for Examination of Patent Application, 10/26/2005, posted at the "Guidance, Tools and Memos" on the Patent site.

3. Applicant's arguments with respect to claims 1-6, 8-16 and 35-37 have been considered but are not deemed to be persuasive.

Claim Objections

4. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. ' 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5 and 9-14, 37-44, 46-49 and 51-54 are rejected under 35 U.S.C. § 102(b) as being anticipated by Carusone, Jr. et al. (USPN: 5,157,667); hereinafter Carusone.

As per claims 1 and 9, Carusone discloses the invention as claimed including a method and apparatus for storing and distributing data in a network storage system having a plurality of devices 30-33 D (e.g. fig. 1) interconnected with one or more switches 10 (e.g. fig. 1, also see fig. 2 for switches 222 and 224) each switch having a memory associated with the port is known to be inherent in the system Carusone, since Carusone clearly discloses the storing of the link adapter IDs (LAID) already exists in the system described in the referenced copending patent application, the individual LAID numbers exists and only need to be stored locally at each unit (e.g. see column 9, lines 15-19); a plurality of file servers as being equivalently taught as host processors [212, 214 and 216] (e.g. see fig. 2); a plurality of disks D 30-33 connected to at least

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one of the one or more switches (e.g. see fig. 1), the further limitation of one of the plurality of file servers writing/reading a set of data to/from the memory associated with one of the ports of one of the one or more switches is taught by Carusone as unit means of one of the host processor units for writing/exchanging (reading) and storing the link adapter IDs locally at each unit associated with one of the ports (e.g. see column 9, lines 13-19). Noting that the further limitation of including a disk identification string in a set of data for indicating a disk that is off-line and inaccessible to any of the devices is taught by Carusone to the extent that it is being claimed since Carusone clearly discloses that each switch, CPU and CU in the network has an identifier which uniquely identifies that unit wherein each link adapter of those units on the network is assigned a unique link adapter identifier (LAID) consisting of the unit ID plus a unique number (the interface ID, or port number) for indicating a specific adapter on the unit (e.g. see column 4, line 66 bridging column 5, lines 6); wherein a failed disk is indicated in a failure disk report which includes the link adapter IDs (LAID) e.g. see column 9, lines 45 et seq., column 5, lines 19 et seq.);

As per claims 2-3 and 10-11, Carusone discloses the data set is known as link adapter IDs (LAID) which is seen to be the combination of a given unit ID plus a unique number (the

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interface ID, port number/serial number, address) (e.g. see column 8, line 66 bridging column 9, line 2; also see column 8, lines 33 et seq.);

As per claims 4 and 12, the further limitation of the address further comprises a fully qualified network address is taught by Carusone to the extent that it is being claimed, for example, it should be noted that the system of Carusone operates and being implemented in the network environment (column 1, lines 12 et seq.) wherein each link-level in Carusone's system is assigned a unique address/link address or fully qualified network address as being claimed (e.g. see column 8, lines 33 et seq.);

As per claim 5, the further limitation of wherein the set of data further comprises identification of one or more disks that are offline and inaccessible to any of the plurality of devices is equivalent taught as the failure report which includes the link adapter IDs (LAID) of the link adapter or devices which are failure or offline (e.g. see column 9, lines 45 et seq., column 5, lines 19 et seq.);

As per claim 13, Carusone discloses the invention as claimed including a network storage system having one or more switches 10 having a plurality of ports P (e.g. see figure 1, column 7, lines 16-17) wherein each switch having a memory associated with the port is inherent in the system Carusone, since Carusone clearly discloses the storing of the link adapter IDs (LAID) already

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exists in the system described in the referenced copending patent application, the individual LAID numbers exists and only need to be stored locally at each unit (e.g. see column 9, lines 15-19); a plurality of file servers as being equivalently taught as host processors [212, 214 and 216] (e.g. see fig. 2); a plurality of disks D 30-33 connected to at least one of, the one or more switches (e.g. see fig. 1), the further limitation of one of the plurality of file servers writing an identification information including a disk identification string to one of the ports of one of the switches in response to one of the disks/devices being offline (failure) is taught by Carusone as when a failure occurs, each unit writes or sends failure reports which includes the LAID of the link adapter that detected the failure to the central location thru one of the ports (e.g. see column 9, lines 33-51); Carusone further discloses that each switch, CPU and CU in the network has an identifier (identification string) which uniquely identifies that unit wherein each link adapter of those units on the network is assigned a unique link adapter identifier (LAID) consisting of the unit ID plus a unique number (the interface ID, or port number) for indicating a specific adapter on the unit (e.g. see column 4, line 66 bridging column 5, lines 6).

As per claim 14, Carusone discloses wherein the plurality of switches comprises fibre channel switches operatively interconnected to define a switching fabric; for example, staring

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at column 7, lines 58 et seq.; Carusone discloses link-connected systems may employ optical fibers instead of electrical conductors to interconnect optoelectronic components;

As per claims 37-40, Carusone discloses implementing one of the plurality devices a 30-33 as a disk/filer D connected to the control units 26-29 (e.g. see figure 1)

As per claims 41 and 42, see arguments with respect to claim 1; in addition, Carusone discloses the data set is known as link adapter IDs (LAID) which is seen to be the combination of a given unit ID plus a unique number comprises interface ID, port number/serial number, address, etc...) (e.g. see column 8, line 66 bridging column 9, line 2; also see column 8, lines 33 et seq.);

As per claims 43 and 44, Carusone discloses the failure report being generated by each device D (or disk/filer including the second filer as being claimed) to the central location wherein the failure report which includes the link adapter IDs (LAID) of the link adapter or devices which are failure or offline (e.g. see column 9, lines 45 et seq., column 5, lines 19 et seq.);

As per claims 46-47 and 51-52, Carusone discloses the invention as claimed including a network storage system comprising a switch 10 having a plurality of ports P (e.g. see figure 1); a port memory associated with the switch is known to be inherent in the system Carusone, since Carusone clearly

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discloses the storing of the link adapter IDs (LAID) already exists in the system described in the referenced copending patent application, the individual LAID numbers exists and only need to be stored locally at each unit (e.g. see column 9, lines 15-19); a plurality of devices 30-33 D (e.g. fig. 1) interconnected with one or more switches 10 (e.g. fig. 1, also see fig. 2 for switches 222 and 224), host processors [212, 214 and 216] for reading the port memory (e.g. see fig. 2); the further limitation of one of the plurality of file servers writing an identification information including a disk identification string to one of the ports of one of the switches in response to one of the disks/devices being offline (failure) is taught by Carusone as when a failure occurs, each unit writes or sends failure reports which includes the LAID of the link adapter that detected the failure to the central location thru one of the ports (e.g. see column 9, lines 33-51); a plurality of filers is equivalently taught as plurality of CU 26,27,28 and 29 (e.g. see fig. 1); wherein each filer is equivalently taught as a group of disks/devices D separately coupled to the CU unit 26, 27, 28 and 29);

As per claims 48-49 and 53-54; Carusone discloses one control unit can read plurality of devices attached to other control unit when the other control unit fails or goes off line since Carusones discloses whenever any of the units is first

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interconnected to a neighboring unit, LAIDs are exchanged and stored (e.g. see column 9, lines 14 et seq., secondly, the failure report being generated by each device D (or disk/filer as being claimed) to the central location wherein the failure report which includes the link adapter IDs (LAID) of the link adapter or devices which are failure or offline (e.g. see column 9, lines 45 et seq., column 5, lines 19 et seq.);

Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6, 8, 15-16, 45, 50 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carusone, Jr. et al.

(USPN: 5,157,667);

hereinafter Carusone.

As per claim 6, Carusone discloses the invention as claimed, detailed above with respect to claims 1 and 9; Carusone however does not particularly teach the identification further comprises

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a world wide name. First of all, it should be noted at Worldwide Web is commonly known, affordable and widely available in nowadays communication; accordingly it would have been obvious to one having ordinary skill in the art at the time the current invention was made to readily recognize and implement the data identification as a world wide name; in doing so, it would allow Carusone's system to server broader range of application, and thereby broadening one's potential market and saving investment capital.

As per claims 8 and 15, Carusone discloses the invention as claimed, detailed above with respect to claims 1 and 13; Carusone however does not particularly teach the memory associated with the port further comprises a Symbolic Port Name field. First of all, it should be noted that the switch port memory associated with the port for locally storing the individual link adapter IDs number is embedded and taught by Carusone (e.g. see column 9, lines 14-24); secondly, as known in the memory storage art, memory structure is made of array of memory cells having multiple lines, segments and/or fields for storing and identifying data stored within respective memory location. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to implement additional memory field, or Symbolic-port-name field as being claimed, for the purpose of port identification and port control function; in

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doing so, it would allow the host processors or other units within the system to quickly identify and access the ports using the symbolic-port-name field for conveying application information, therefore being advantageous.

As per claims 16 and 56; Carusone discloses the invention as claimed, detailed above with respect to claims 1, 9, 13, 41, 46 and 51; Carusone however does not particularly disclose a computer readable medium having of instructions to carry out the steps of claims 1, 9 and 13 to be implemented on a computer as being claimed in claim 16. However, one of ordinary skill in the art would have recognized that computer readable medium (i.e., floppy, cd-rom, etc.) carrying computer-executable instructions for implementing a method, because it would facilitate the transporting and installing of the method on other systems, is generally well-known in the art. For example, a copy of the Microsoft Windows operating system can be found on a cd-rom from which windows can be installed onto other systems, which is a lot easier than running a long cable or hand typing the software onto another system. The examiner takes Official Notice of this teaching. Therefore, it would have been obvious to put Carusone's program on a computer readable medium, because it would facilitate the transporting, installing and implementing of Carusone's program on other systems.

As per claims 45, 50 and 55; Carusone discloses the

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invention as claimed, detailed above with respect to claims 1, 9, 13, 16, 41, 46 and 51; Carusone however does not particularly disclose writing the identification information into the port memory during or upon boot-up of the device. However, it's commonly known in the art that identification data is normally updated or occurred at system start-up or system initialization to allow the system to recognize newly added devices.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to write the identification information into the port memory during boot-up of the device; in doing so, first, it would allow the system to easily recognize any newly added devices in the system; secondly, it would further minimize any potential errors of wrongly-read or missing devices that would raise after system boot; therefore being advantageous.

9. As to the remark; (a) Applicant's counsel argue that the references fail to teach or suggest including in the set of data a disk identification string indicating disks that are offline and inaccessible to any of the plurality devices (see pages 14-16 of the amendment), and (b) including in the set of data a disk identification string, the disk identification string indicating a name of a switch, a port number on the switch, a disk number, and a status of the disk (see pages 16-19 of the amendment).

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With respect to (a); Examiner would like to emphasize that the offline status being equivalent to the failure status as being disclosed and taught by Carusone, noting that Carusone clearly teaches when a failure (offline) occurs, each unit writes or sends failure reports which includes the LAID of the link adapter that detected the failure to the central location thru one of the ports (e.g. see column 9, lines 33 et seq.). The writing of failure data and identifying which device actually caused the failure is known to be embedded in the process of writing and generating failure report by each of the unit when failure (offline) occurred; indeed, the failure unit is known thru its ID as taught by Carusone. With respect to (b); Carusone discloses the data set is known as link adapter IDs (LAID), wherein this link adapter identification is known to include a given unit ID plus a unique number comprising interface ID, port number/ serial number, address, etc...) as being contended by Applicant's counsel (e.g. see column 8, line 66 bridging column 9, line 2; also see column 8, lines 33 et seq.). By these rationales, Examiner believes that the limitation being contended by Applicant's counsel *"including in the set of data a disk identification string indicating disks that are offline and inaccessible to any of the plurality devices"*, and *"including in the set of data a disk identification string, the disk identification string indicating a name of a switch, a port number on the switch, a*

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disk number, and a status of the disk" is taught and anticipated by the reference of Carusone.

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (571)-272-4187. The examiner can normally be reached on from 6:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (571)-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

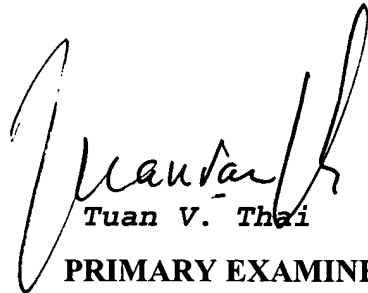
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TVT/October 28, 2005



Tuan V. Thai
PRIMARY EXAMINER
Group 2100